

ADTRAN

6312-4

Combo PON Remote OLT



Benefits

- Cuts headend space congestion, power consumption and fiber exhaust issues
- Supports Gigabit+ speeds and subscriber capacity via remote, non-blocking FTTH architecture
- Accelerates differentiated service creation via open, multi-vendor SDN programmability
- Up to 512 FTTH subscribers supported via four ports of 10G PON
- Purpose built to support gigabit broadband and SLA-based multi-gig business and backhaul services
- Supports low-latency services such as emerging augmented and virtual reality applications
- Aligned with Distributed Access Architectures (DAA) and Fiber Deep strategies (up to 50 miles)
- Robust outside plant design with strand mounting and environmentally sealed packaging
- Fully redundant power supplies and uplink connections

Overview

The ADTRAN SDX 6312-4 is an environmentally sealed, virtualized 10G XGS-PON/GPON Remote OLT.

Part of ADTRAN's portfolio of 4-port 10G PON devices, the SDX 6312-4 reduces time-to-market and subscriber connection costs by using Fiber-to-the-Home (FTTH) and Distributed Access Architectures (DAA) to effectively deliver Gigabit and triple-play services.

The next-generation SDX 6312-4 supports four SFP+ interfaces for 10/10G XGS-PON/GPON to support up to 128 users per PON (up to 512 subscribers across four PON ports). It offers four nonblocking 10G uplink interfaces, with embedded redundancy options, to ensure scalability to support next-generation residential, business, and mobile backhaul/fronthaul services.

The ADTRAN family of remote and virtualized OLTs support modern SDN control protocols allowing service providers and MSOs to effectively execute their transition to virtualized,

managed and orchestrated SD-Access service architectures. Additionally, the SDX 6312-4 virtual R-OLT supports virtualization of Layer 3 processing and other functionality resulting in a simpler, greener, more cost-effective virtualized R-OLT architecture.

The ADTRAN SDX 6312-4 supports the Open Networking Forum (ONF) Trellis disaggregated, software-defined access (SD-Access) architecture that includes programmable elements, such as ADTRAN SDX 8200 and 8300 Series aggregation switches. From a programmability perspective, the SDX 6312-4 has open APIs that utilize standard NETCONF/YANG interfaces for all management functions, easing integration into an SDN environment.

The ADTRAN SDX 6312-4 environmentally hardened, clam-shell form factor can withstand extreme weather conditions, while providing reliable broadband connectivity.



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Product Specifications

System Features

- 4x 10GE/1GE uplink SFP+ ports
- 4x 10G/10G COMBO XGS-PON/GPON SFP+ ports
- CWDM and DWDM uplink optics supported
- Full-duplex switching capacity: 80 Gbps
- **Management interfaces:** RS-232C, 10/100/1000BASE-T

Mechanical

- 11 x 19.5 x 10 in. (279 x 495 x 254 mm) (W x L x H)
- **Maximum Weight:** 30 lbs (13.6 kg)

Electrical Power Specification

- Span, AC, and DC powering options
- **Maximum power consumption:** 85W
- Standard CATV plant power, pseudo square wave, 45 - 95 VAC RMS at 60Hz

Environmental

- **Operating Temperature:** -40°C to 65°C
- **Humidity:** 5 – 95%

GPON/PON

- Wire-speed processing
- 10 Gbps/10 Gbps symmetric rate (downstream/upstream)
- 128-bit Advanced Encryption Standard (AES) encryption engine for PON security and privacy with up to 128 unique keys.
- Forward Error Correction (FEC) encoding and decoding
- Flexible optical transceiver interfaces for multiple vendor support
- Hardware-based configurable Dynamic Bandwidth Allocation (DBA)
- Supports local and remote loopback test, and MEF services

Layer 2

- **MAC address:** up to 64K (shared) MAC management
- VLAN
 - ◆ Max 4 K VLANs, 802.1Q support
 - ◆ 802.1ad Q-in-Q
 - ◆ Tagging/stacking
 - ◆ Port to VLAN mapping
 - ◆ Service to VLAN mapping
- Link aggregation
 - ◆ 802.3ad link aggregation
 - ◆ Load-balancing based on source and destination MAC/IP

Security

- Packet Filtering
 - ◆ DHCP filtering
 - ◆ Packet filtering with ACLs
 - ◆ EtherType VLAN ID

Layer 3

- Multicast
 - ◆ IGMP v2/v3
 - ◆ IGMP snooping , IGMP join/leave, IGMP join filter/count limit
- DHCP
 - ◆ DHCP Relay, Blocks illegal IP users, DHCP option 82, DHCP Snooping

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Quality of Service

- **Layer 2:** source/destination MAC address, VLAN ID, COS field
- **Marking/remarking:** DSCP, 802.1p
- Packet drop
- Mirroring to port, redirect to port
- 8 queues per port
- SPQ, DWRR, hybrid (SPQ+DWRR)
- Egress rate shaping per port/queue with 1 Mbps unit
- IP anti-spoofing
- ARP packet traffic limit
- Blocking of user-to-user flows
- Subscriber isolation

System Security

- **Access control:** RADIUS; TACACS+; DHCP, DHCP 82/60 options, and static IP
- CPU packet filtering with ACL
- CPU packet rate-limit

Management

- Remote access
 - ◆ SSH, NETCONF
- OS/configuration
 - ◆ Remote OS upgrade using TFTP, FTP, SFTP
 - ◆ Dual flash image
 - ◆ Remote configuration data download

Ordering Information

Equipment	Part No.
SDX 6312-4 COMBO PON RMT OLT	11971310F1

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